

# Overview of EPA's Air Toxics Screening Assessment (AirToxScreen)

CAAAC Meeting  
Sept. 14, 2022

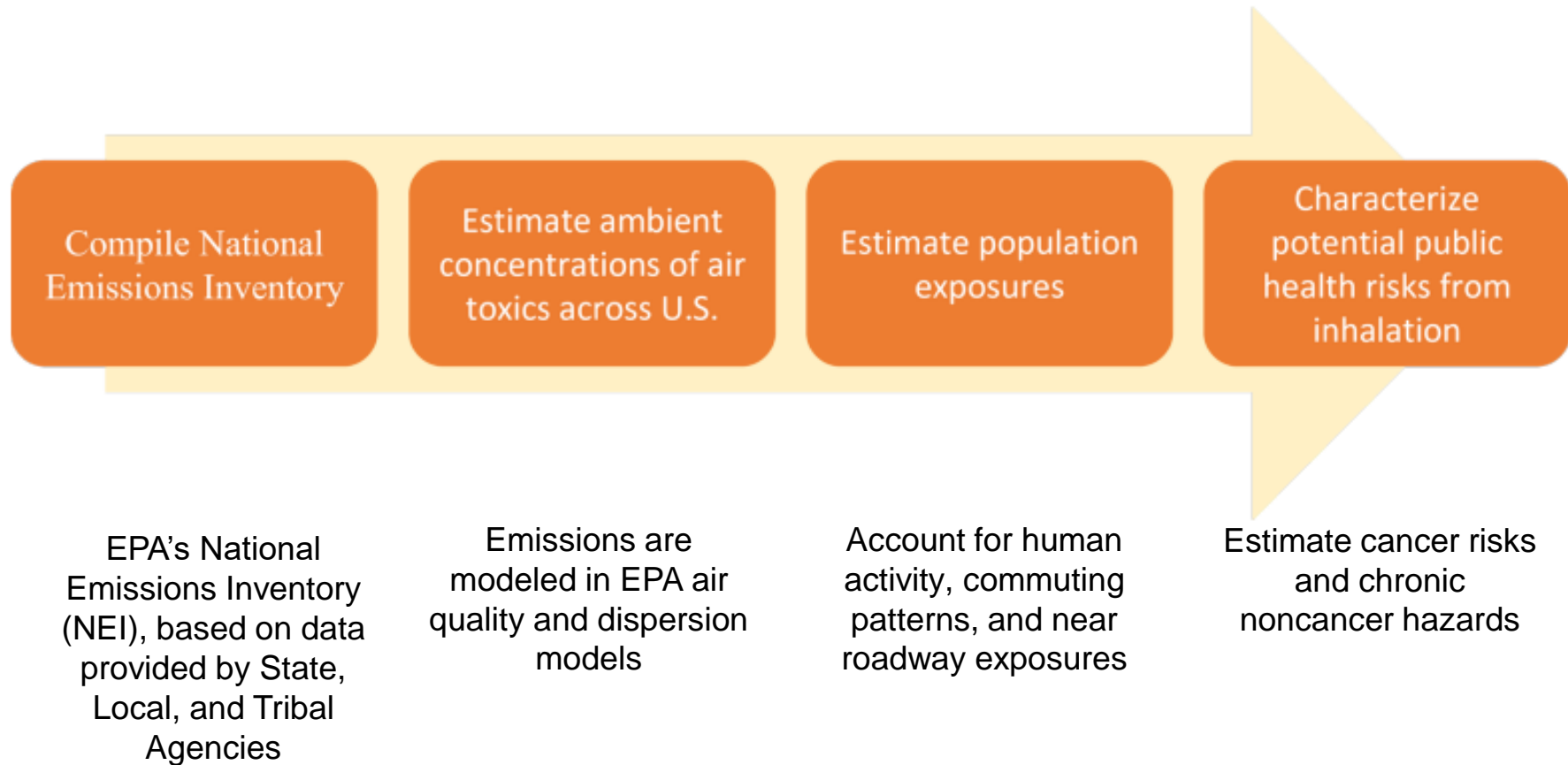
# What is AirToxScreen?

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- ▶ Screening-level characterization of air toxics across the nation
  - ▶ Nationwide assessment at census **tract** resolution
  - ▶ Based on air quality modeling of emissions
  - ▶ Cancer and noncancer risk estimates for more than 100 air toxics
- ▶ How is AirToxScreen used?
  - ▶ Provide communities with information about health risks from air toxics
  - ▶ Planning tool for EPA, State/Local/Tribal Organizations
    - To identify locations of interest for further study
    - To prioritize pollutants and emission sources/types
- ▶ Successor to the National Air Toxics Assessment (NATA)

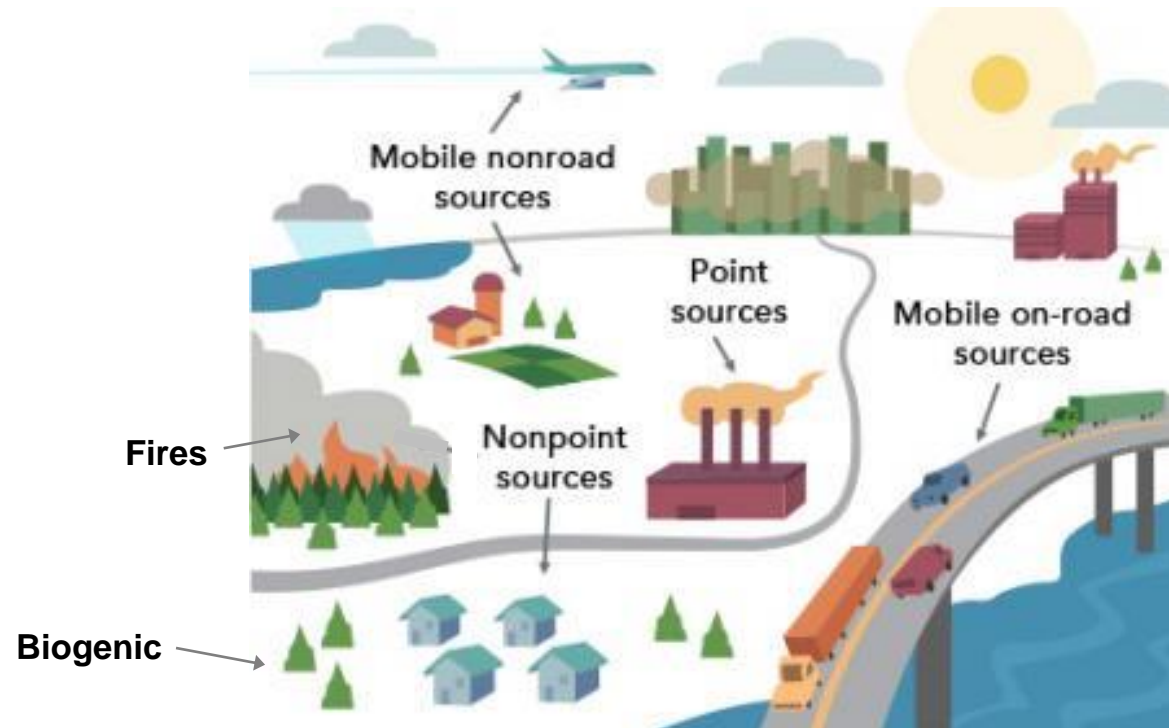
# AirToxScreen Steps

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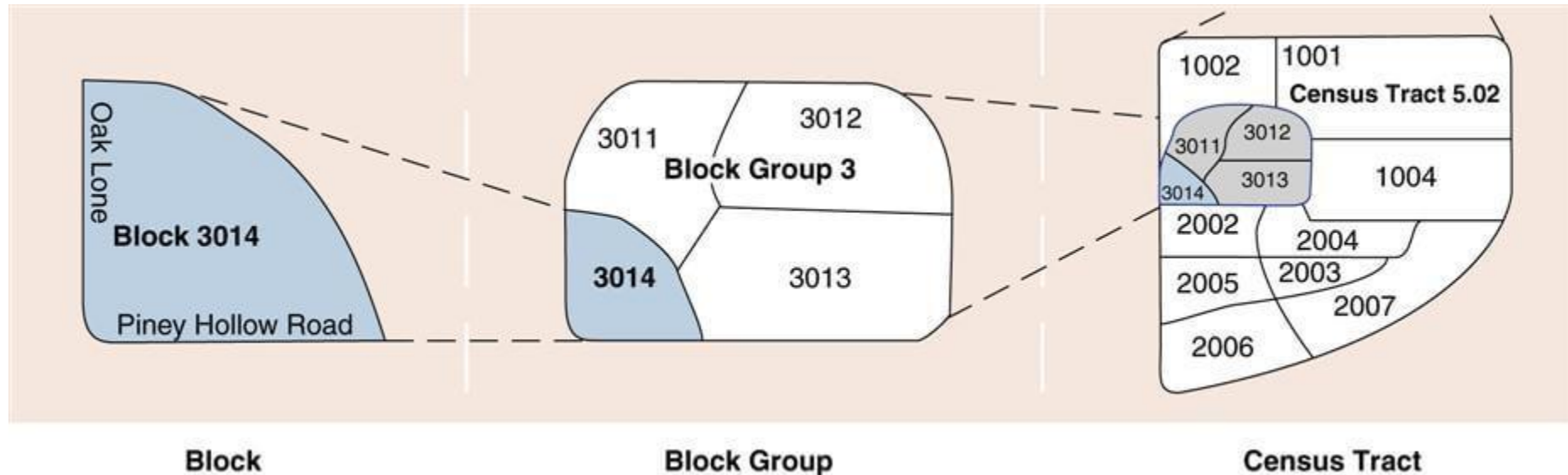
# Sources of Emissions in AirToxScreen

- ▶ Point or stationary sources
- ▶ Nonpoint
- ▶ Mobile
  - ▶ Onroad
  - ▶ Nonroad
- ▶ Fires
- ▶ Biogenic
- ▶ Secondary
- ▶ Background



# AirToxScreen Approach

- ▶ Results are provided at the Census Tract level
- ▶ Assume a 70-year lifetime exposure
- ▶ Current results based on 2018



# AirToxScreen Results

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## ▶ Cancer

- ▶ Combined cancer risk based on exposure to all air toxics from all outdoor sources
- ▶ Presented as risk “in-1 million”
  - The national average for 2018 is 20-in-1 million

## ▶ Noncancer

- ▶ Presented as a hazard index (HI)
- ▶ Target organ specific (14 total)

Website: [www.epa.gov/AirToxScreen](http://www.epa.gov/AirToxScreen)

## Air Toxics Screening Assessment



The Air Toxics Screening Assessment (AirToxScreen) is EPA's screening tool to provide communities with information about health risks from air toxics. AirToxScreen is part of EPA's [new approach to air toxics](#) that provides updated data and risk analyses on an annual basis, helping state, local and tribal air agencies, EPA, and the public more easily identify existing and emerging air toxics issues.

### Learn About AirToxScreen

- [Overview](#)
- [Limitations](#)
- [Glossary of Terms](#)
- [Frequent Questions](#)

### AirToxScreen 2018

- [2018 AirToxScreen](#)
- [2018 Assessment Results](#)
- [AirToxScreen Mapping Tool](#)
- [AirToxScreen Methods](#)

### Quick Links

- [Previous air toxics assessments](#)
- [Learn about risk assessments](#)
- [Hazardous Air Pollutants website](#)
- [Ethylene Oxide website](#)
- [Urban Air Toxics website](#)
- [Other environmental screening tools](#)

# AirToxScreen Mapping Tool

Air Toxics Screening Assessment

[CONTACT US](#)

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[AirToxScreen Overview](#)

[AirToxScreen Limitations](#)

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**2018 AirToxScreen**

[2018 AirToxScreen Results](#)

**AirToxScreen Mapping Tool**

[AirToxScreen Assessment Methods](#)

## AirToxScreen Mapping Tool

**New! The AirToxScreen Mapping Tool now includes all AirToxScreen versions!** Just select the tab for the year and information you want to view. (NOTE: Use caution when comparing different assessment years. See our [Frequent Questions](#) for more.)

The AirToxScreen Mapping Tool displays cancer risks, emissions data, and other AirToxScreen data on a map. Users can "zoom" to areas of interest using the map's search tool, select census tracts to see summary level information about risk from air toxics, and view other AirToxScreen data and results.



The current version of the AirToxScreen Mapping Tool includes the following data layers:

- total cancer risks for each U.S. census tract
- cancer breakdown by pollutant and emissions type
- emissions data for point-source sector emissions modeled in AirToxScreen
- air toxics monitoring sites with monitoring data

Upcoming updates to the Tool will include

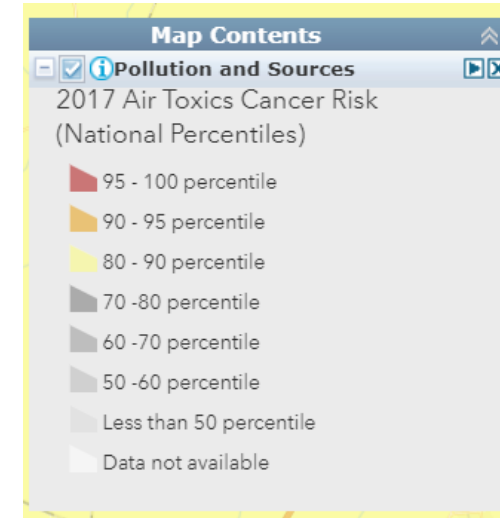
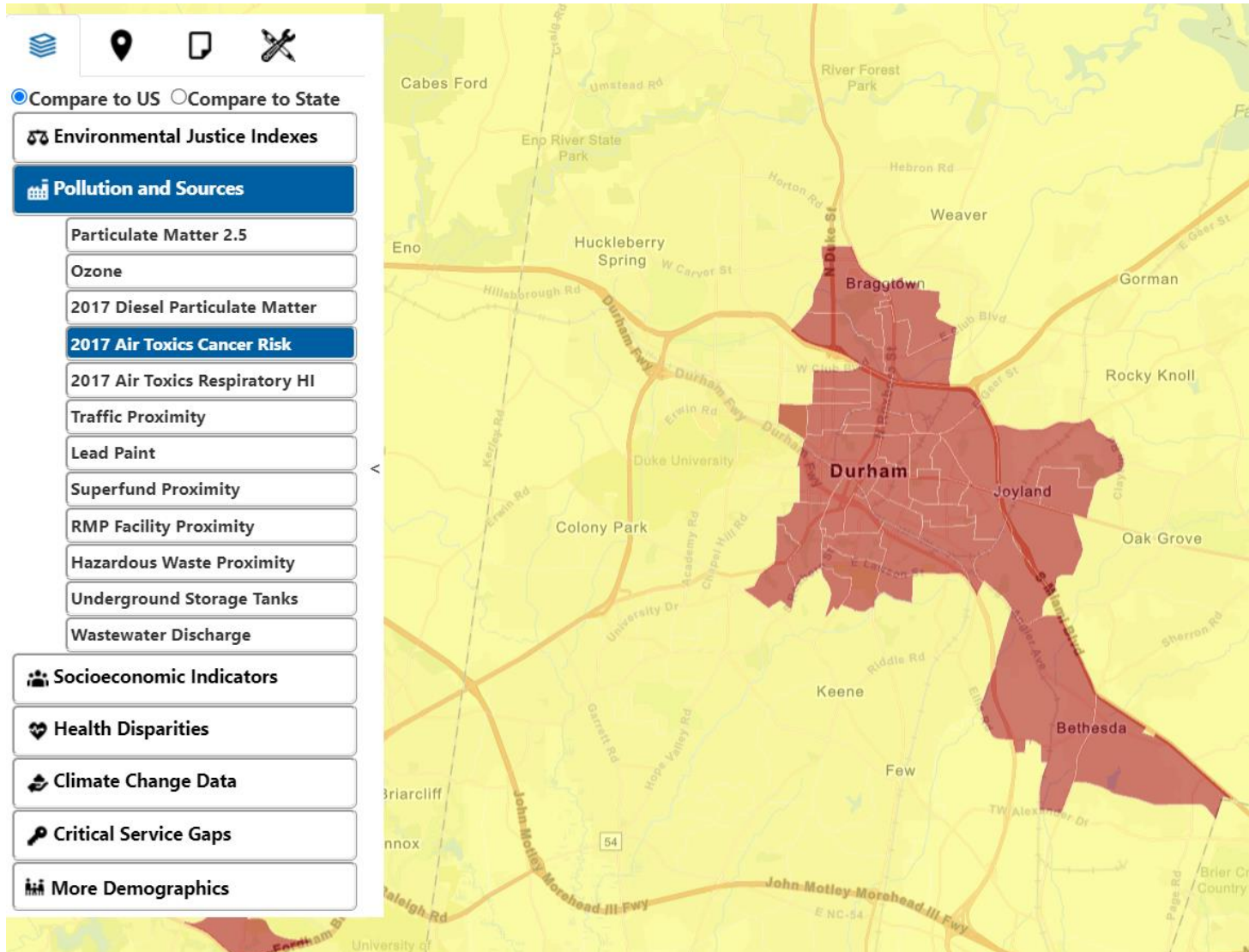
- emissions data for all emission sources modeled in AirToxScreen
- chronic noncancer hazard indexes
- modeled ambient concentrations (tract-level)

You can use the AirToxScreen Mapping Tool on a computer or mobile device.

**Please Note:** EPA has posted information on this site as a convenience to the site's users. Although EPA has made every effort to ensure the accuracy of the information posted on this site, users of this site should not rely on information relating to environmental laws and



# AirToxScreen Results in EJScreen



# AIRTOXSCREEN MAPPING TOOL

# OVERVIEW

Purpose

Phased Release Approach

Current Tool's Functionality

Mapping Tool

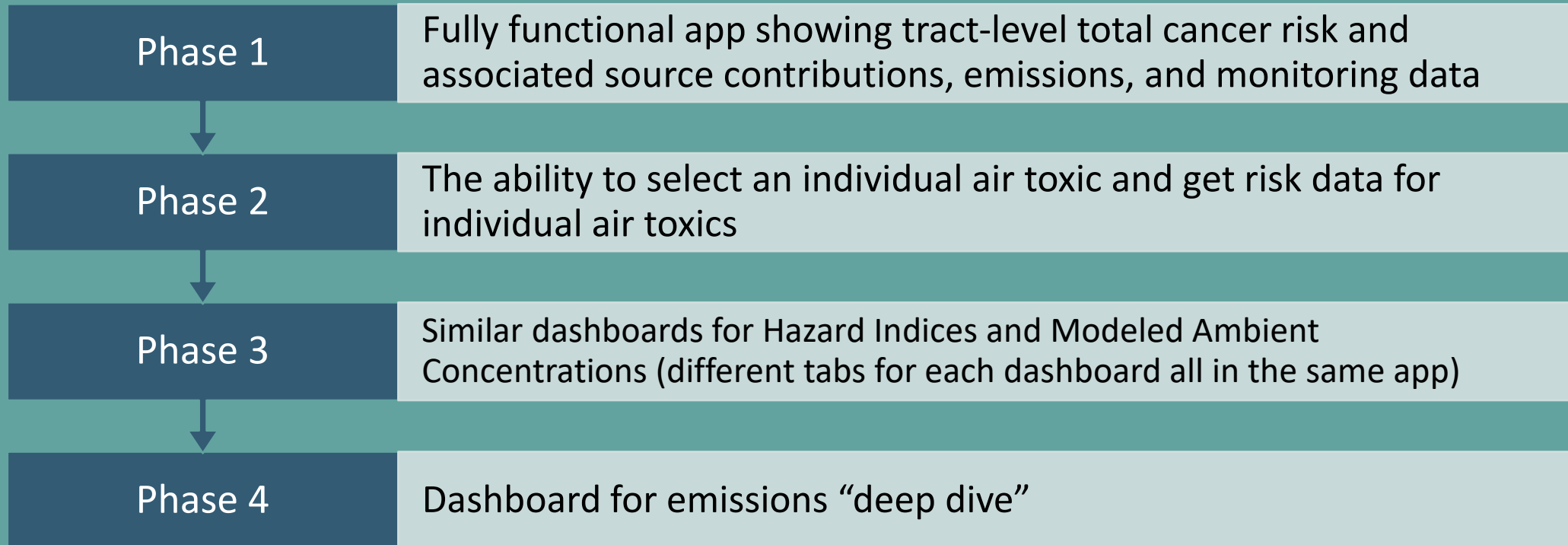
# PURPOSE

OAQPS developed a tool to provide easy access to summary-level information to understand risk in a given area.

The tool equips users to answer the following questions:

- 1) What is the risk from air toxics in my area?
- 2) What pollutants drive those risks?
- 3) Where do those emissions come from?

# PHASED RELEASE APPROACH



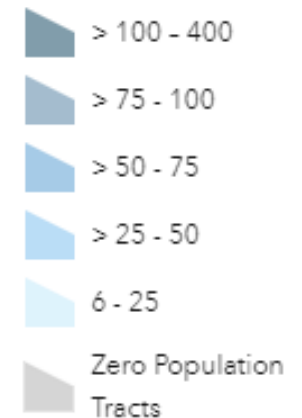
# CURRENT FUNCTIONALITY

- Map total risk at tract level
- Map point sources and monitors
- Filter tracts by risk level and location
- View source type contribution to risk for selected tracts
- View pollutant contribution to risk for selected tracts
- View tracts and point sources where emissions have gone down since 2018

## Legend

### Cancer Risk (2018)

Total Risk (in a million)



# MAPPING TOOL:

## Air Toxics Screening Assessment



<https://www.epa.gov/AirToxScreen>

### Air Toxics Screening Assessment

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<https://www.epa.gov/AirToxScreen/airtoxscreen-mapping-tool>

2018 Cancer Risk

2017 Cancer Risk



## AirToxScreen Mapping Tool (based on 2018 emissions)

Zoom to State(s)  
None

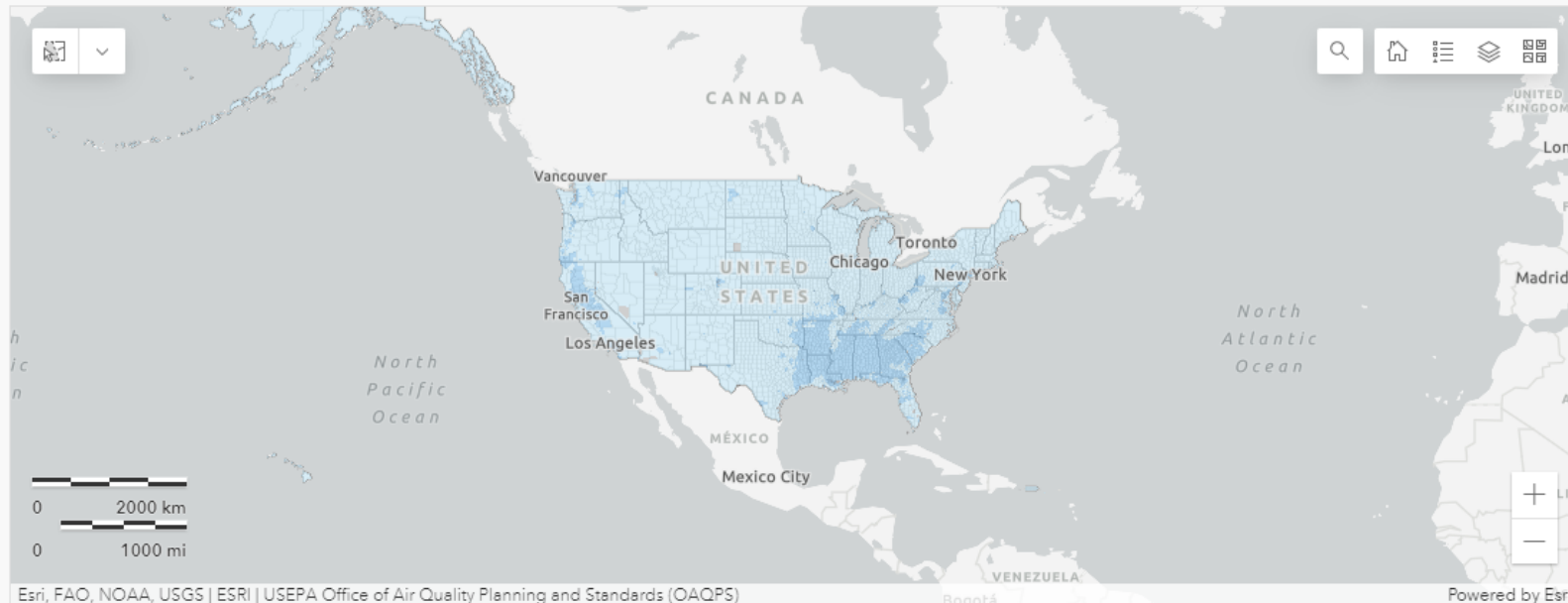
Zoom to County(s)  
None

Select Minimum Risk to Include  
No number selected

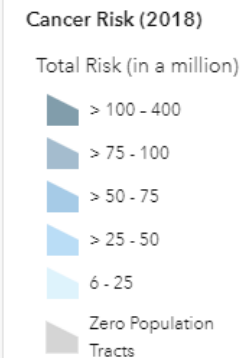
Select Only Tracts With Chan...  
None

### To get started:

- Select tract(s) on map using selector tool in upper left corner of map. When tract(s) are selected, associated lists and charts will appear under the map.
- Zoom to a specific area using the search tool in the upper right of map by typing in a place name or by using the State and County selector tools above the map.
- Filter tracts by risk level using the Risk Level selector tool above the map.
- Filter tracts with risk changes since the analysis was performed.



### Legend



### Tract Location Data

Selection required on one or more elements

Location

Air Toxic

Source

### Risk by Air Toxic

Selection required on one or more elements

### Risk by Source Type

Selection required on one or more elements

### Facility Emissions (tons)

Selection required on one or more elements